CLAIMS:

1. A device for displaying a vessel (2), comprising

a) a memory (10) in which a sequence of intravascular ultrasound images (I) is stored, the ultrasound images being indexed by the respective locations (x) of their recording in the vessel (2),

b) a data input for information (A) which describes a current location in the vessel (2),

c) a display unit (12) for displaying images (I_1, I_2, I_3, A_t) of the vessel (2), wherein the device is designed to select from the memory (10) at least one ultrasound image (I_2) corresponding to the current location in the vessel (2) and to display it on the display unit (12).

2. A device for displaying a vessel (2) which is subject to a cyclic intrinsic movement that can be characterized by a parameter (E), in particular a device as claimed in claim 1, comprising

a) a memory (10) in which a sequence of intravascular ultrasound images (I) is stored, the ultrasound images being indexed by the respective values of the parameter (E) of the intrinsic movement at the time of recording,

b) a data input for the parameter (E) of the intrinsic movement,

c) a display unit (12) for displaying images (I_1, I_2, I_3, A_t) of the vessel (2), wherein the device is designed to select from the memory (10) at least one ultrasound image (I_1, I_2, I_3) corresponding to the current value of the parameter (E) of the intrinsic movement and to display it on the display unit (12).

3. A device as claimed in claim 1 or 2, characterized in that it comprises an electrocardiograph (4) for recording a parameter (E) that characterizes the heart phase and/or a breathing sensor for recording a parameter that characterizes the breathing phase.

4. A device as claimed in claim 1 or 2, characterized in that it comprises an intravascular ultrasound probe (5) for generating the ultrasound images (I) stored in the memory (10).

5. A device as claimed in claim 1 or 2, characterized in that it comprises an X-ray device (3, 7) for generating projection images of the vessel (2).

6. A device as claimed in claim 1 or 2, characterized in that it comprises a device for injecting contrast agent into the vessel (2).

7. A device as claimed in claim 1 or 2, characterized in that it comprises a further memory (11) in which angiograms (A*) of the vessel (2) are stored in a manner indexed with a parameter (E) of an intrinsic movement of the vessel (2), and in that the device is designed to select from the further memory (11) at least one angiogram (A*) corresponding to the current value of the parameter (E) of the intrinsic movement and to display it on the display unit (12).

8. A device as claimed in claim 1, characterized in that it comprises a data input for a current image (A_t) of the vessel (2) and is designed to determine from the current image (A_t), as the current location, the position of an object of interest (13).

9. A device as claimed in claim 1 or 2, characterized in that the intravascular ultrasound images in the memory (10) are indexed by the respective locations (x) of their recording in the vessel (2), and in that the device is designed to display an image (A_t) of the vessel (2) on the display unit (12) and to show within this image the geometric position of an ultrasound image (I_1, I_2, I_3) that is likewise displayed on the display unit (12).

10. A method of displaying a vessel (2), comprising the steps:

a) generating and storing a sequence of intravascular ultrasound images (I) while at the same time recording the associated locations (x) in the vessel,

b) detecting a current location in the vessel,

c) selecting at least one ultrasound image (I_2) corresponding to the current location,

d) displaying the selected ultrasound image (I_2).

11. A method of displaying a vessel (2) which is subject to a cyclic intrinsic movement that can be characterized by a parameter (E), in particular a method as claimed in claim 10, comprising the steps:

a) generating and storing a sequence of intravascular ultrasound images (I) while at the same time recording the associated parameters (E) of the intrinsic movement,

b) detecting the current value of the parameter (E) of the intrinsic movement,

c) selecting at least one ultrasound image (I_1, I_2, I_3) corresponding to the current value of the parameter (E) of the intrinsic movement,

d) displaying the selected ultrasound image (I_1, I_2, I_3).